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EXAMINER	
BANH, DAVID H	

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2854	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,900	VANDERMEULEN, KRIS	
	Examiner	Art Unit	
	DAVID BANH	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14,16 and 18-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14,16 and 18-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments with respect to claims 14, 16 and 18-25 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended limitation of "the other of said printhead and said platen being connected to the support" is new matter. While there are embodiments in the Specification that show the printhead being mounted on the first frame, then mounted on the support, and also, the platen being mounted on the first frame, then being mounted on the support, none of the embodiments describe the limitation which the amended claim possesses, which is either the printhead being mounted on the first frame while the platen is mounted on the support, orthe platen being mounted on the first frame while the platen is mounted on the support.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 14, 16, 18-21, 23-26 and 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hongo et al. (US Patent 5,172,137).

For claim 14: Hongo et al. teaches a printhead assembly **1** comprising a printhead **10** arranged to print on an image-receiving substrate (21 as shown in Fig. 1), a platen **11**, a support **2, 5, 15, 16** (in Figs. 1-3, element **5** is the casing, which supports all other elements of the printer and printhead assembly including **2, 15, 16** shown in Fig. 3 which further supports the printhead), a first frame **9** slideably connected to support **2, 5, 15, 16**, the printhead **10** being mounted on the first frame (the printhead array **10** is mounted on a frame portion **9** of the printhead, the frame **9** is connected to support portion **2** through a sliding gear **17** as seen in Figs. 2 and 3), and the platen **11** being connected to said support **2, 5, 15, 16** (platen **11** is mounted on case body **5** via the bar seen in Figs. 2 and 3), a driver **22** for driving the first frame relative to said support to cause the printhead to move in a linear direction toward the platen (motor portions **22, 23** drive the rod **2** to cause the portions **3, 4, 9, 10, 18** to move in a linear and vertical direction, toward the platen **11**, see also column 3, lines 40-45 as dial element **19** serves an equivalent function) and a compressor **4** connected between the support **2, 5, 15, 16** and the printhead **10** (Fig. 3 shows springs **4** between the printhead **10** and support portions especially **2**).

For claim 16: Hongo et al. teaches the printhead assembly of claim 14 comprising a second frame (rods mounting platen **11**, not labeled with a number, seen in Fig. 3), the platen being mounted on the second frame (column 3, lines 13-15).

For claim 18: Hongo et al. teaches the printhead assembly of claim 14 comprising a third frame **3** slideably connected to said support **2, 5, 15, 16** (column 3, lines 25-35 show that frame **3** slides through means of gears **17** relative to support portion **2**), Wherein the compressor **4** is connected between first and third frames (see Fig. 3, the spring **4** is clearly between first frame **9** and third frame **3**).

For claim 19: Hongo et al. teaches the printhead assembly of claim 18 wherein the driver **22** is configured to drive the third frame **3** together with the first frame **9**, relative to said support **2, 5, 15, 16** (the driver causes third frame **3** to move downward moving it together with first frame **9** and the whole assembly **3, 4, 9, 10, 18** to move downward relative to the support **2**).

For claim 20: Hongo et al. teaches the printhead assembly of claim 18 wherein the printhead **10** is mounted on the first frame **9** (column 3, lines 5-12, and Fig. 2 clearly show printhead array **10** on element **9**), the driver **22** is configured to drive third frame **3** toward the first frame **1** when said printhead **10** abuts the image-receiving substrate causing the compressor **4** to be compressed (the drive **22** is configured to drive the third frame **3** downward, which means toward the first frame **1** and this motion clearly causes the printhead **10** to move into the substrate, not shown, equal and opposite force law results in the compressor being compressed by the resistant normal force).

For claim 21: Hongo et al. teaches the printhead assembly of claim 16 wherein the printhead **10** is mounted on the first frame **9** (printhead **10** is clearly shown on the first frame **9** in Fig. 2), dirving the first frame relative to the support causes the compressor to be compressed when the printhead abuts the image receiving substrate

(as above, the first frame **3** moves downward relative to the support member **2**, and thus must move into substrate, not shown, normal forces on contact in accordance with Newton's Third Law cause the spring **4** to compress).

For claim 23: Hongo et al. teaches a printer (Fig. 1 generally) comprising an input device for inputting data **25** (see column 3, lines 57-61),a printhead **10** arranged to print on an image-receiving substrate (column 3, lines 10-15, Fig. 3, the substrate is not shown but substrate in a printer naturally passes between printhead and platen), a platen **11**, a support **2, 5, 15, 16** (in Figs. 1-3, element **5** is the casing, which supports all other elements of the printer and printhead assembly including **2, 15, 16** shown in Fig. 3 which further supports the printhead), a first frame **9** slideably connected to support **2, 5, 15, 16**, the printhead **10** being mounted on the first frame (the printhead array **10** is mounted on a frame portion of the printhead **9**, the frame **9** is connected to support portion **2** through a sliding gear **17** as seen in Figs. 2 and 3), and the platen **11** being connected to said support **2, 5, 15, 16** (platen **11** is mounted on case body **5** via the bar seen in Figs. 2 and 3), a driver **22** for driving the first frame relative to said support to cause the printhead to move in a linear direction toward the platen (motor portions **22, 23** drive the rod **2** to cause the portions **3, 4, 9, 10, 18** to move in a linear and vertical direction, toward the platen **11**, see also column 3, lines 40-45 as dial element **19** serves an equivalent function) and a compressor **4** connected between the support **2, 5, 15, 16** and the printhead **10** (Fig. 3 shows springs **4** between the printhead **10** and support portions especially **2**).

For claim 24: Hongo et al. teaches the printer of claim 23 wherein the driver **22** is configured to drive the first frame **9** to a predetermined position relative to the support **2,5, 15 16** in accordance with input data (column 3, lines 50-67 teaches driving the frame **9** and the connected shafts **3** to the position denoted by the inputted data).

For claim 25: Hongo et al. teaches a method of controlling printhead assembly **1** comprising a printhead **10** arranged to print on an image-receiving substrate (column 3, lines 10-15, Fig. 3, the substrate is not shown but substrate in a printer naturally passes between printhead and platen), a platen **11**, a support **2, 5, 15, 16** (in Figs. 1-3, element **5** is the casing, which supports all other elements of the printer and printhead assembly including **2, 15, 16** shown in Fig. 3 which further supports the printhead), a first frame **9** slideably connected to support **2, 5, 15, 16**, the printhead **10** being mounted on the first frame (the printhead array **10** is mounted on a frame portion of the printhead **9**, the frame **9** is connected to support portion **2** through a sliding gear **17** as seen in Figs. 2 and 3), and the platen **11** being connected to said support **2, 5, 15, 16** (platen **11** is mounted on case body **5** via the bar seen in Figs. 2 and 3), and a compressor **4** connected between the support **2, 5, 15, 16** and the printhead **10** (Fig. 3 shows springs **4** between the printhead **10** and support portions especially **2**), wherein the method comprises the step of driving the first frame **9** relative to said support **2, 5, 15, 16** to cause the printhead **10** to move in a linear direction toward the platen **11** (column 3, lines 40-45 and 50-67 teach that the frame is driven relative to the support by either the dial **19** or the encoder and motor **22, 23** moving frame **9** and printhead **10** relative to support portion **2** and toward the platen **11**) and the compressor **4** exerts a biasing force

on the printhead **10** when the first frame **9** is driven relative to the support **2, 5, 15, 16** (column 3, lines 30-35 state that the springs **4** provide restoring forces on the printhead **10** and frame **9**).

For claim 26: Hongo et al. teaches the method of claim 25 wherein the driving comprises moving the first frame **9** relative to the support **2, 5, 15, 16** to a predetermined position (column 3, lines 50-67 teach driving the frame and the shafts to a position determined by input data and relative to the support member **2**).

For claim 29: Hongo et al. teaches the printhead assembly of claim 14 wherein the driver is for driving the first frame **9** relative to the support **2, 5, 15, 16** in accordance with information inputted through an input device **25** (column 3, lines 50-67 teaches driving the frame **9** and the connected shafts **3** to the position denoted by the inputted data and shows input device **25** in Fig. 3).

For claim 30: Hongo et al. teaches the printhead assembly of claim 14 wherein the driver **22** is for driving the first frame **9** relative to the support **2, 5, 15, 16** to a predetermined position (column 3, lines 50-67 teach driving the frame and the shafts to a position determined by input data and relative to the support member **2**).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 22, 27, 28, 31, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hongo et al. (US Patent 5,172,137) in view of Spurr et al. (US US Patent 6,106,166) and Terasawa et al. (US Patent 5,398,049).

For claims 22 and 34: Hongo et al. teaches a printhead assembly **1** comprising a printhead **10** arranged to print on an image-receiving **21**, a platen **11**, a support **2, 5, 15, 16** (in Figs. 1-3, element **5** is the casing, which supports all other elements of the printer and printhead assembly including **2, 15, 16** shown in Fig. 3 which further supports the printhead), a first frame **9** slideably connected to support **2, 5, 15, 16**, the printhead **10** being mounted on the first frame (the printhead array **10** is mounted on a frame portion of the printhead **9**, the frame **9** is connected to support portion **2** through a sliding gear **17** as seen in Figs. 2 and 3), and the platen **11** being connected to said support **2, 5, 15, 16** (platen **11** is mounted on case body **5** via the bar seen in Figs. 2 and 3), a driver **22** for driving the first frame relative to said support to cause the printhead to move in a linear direction toward the platen (motor portions **22, 23** drive the rod **2** to cause the portions **3, 4, 9, 10, 18** to move in a linear and vertical direction, toward the platen **11**, see also column 3, lines 40-45 as dial element **19** serves an equivalent function).

Hongo et al. does not teach information stored on the image receiving substrate to cause the printhead to move toward the platen. However, Hongo et al. does teach an input device **25** and an encoder **22** the input and encoder controlling a motor **23** for controlling the position of the printhead and driving it toward the platen (column 3, lines 50-67 describe the input device **25**, encoder **22** and motor **23**).

Spurr et al. teaches information about the type of substrate being stored on an RFID chip on the substrate (column 4, lines 25-35).

Terasawa et al. teaches using knowledge of the type of substrate used to adjust the recording head **10** of a printer (column 10, lines 5-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Hongo et al., by having it adjust the recording head position based on the type of substrate as taught by Terasawa et al. to maintain proper print quality. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Hongo et al. and Terasawa et al., by making it obtain the information about the substrate on the substrate itself, by utilizing an RFID tag disposed thereon as taught by Spurr et al. to ensure that the information is readily available at the time printing occurs.

For claims 27 and 28: Hongo et al. teaches all of the limitations, except that Hongo et al. does not teach information stored on the image receiving substrate to cause the printhead to move toward the platen. However, Hongo et al. does teach an input device **25** and an encoder **22** the input and encoder controlling a motor **23** for controlling the position of the printhead and driving it toward the platen (column 3, lines 50-67 describe the input device **25**, encoder **22** and motor **23**).

Spurr et al. teaches information about the type of substrate being stored on an RFID chip on the substrate (column 4, lines 25-35). Terasawa et al. teaches using knowledge of the type of substrate used to adjust the recording head **10** of a printer (column 10, lines 5-10). It would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the invention of Hongo et al., by having it adjust the recording head position based on the type of substrate as taught by Terasawa et al. to maintain proper print quality. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Hongo et al. and Terasawa et al., by making it obtain the information about the substrate on the substrate itself, by utilizing an RFID tag disposed thereon as taught by Spurr et al. to ensure that the information is readily available at the time printing occurs.

For claim 31: The combination of Hongo et al., Spurr et al. and Terasawa et al. teaches the printhead assembly of claim 22 wherein the information is stored on an electronic tag or chip (column 4, lines 25-35, RFID is an electronic tag).

For claim 32: The combination of Hongo et al., Spurr et al. and Terasawa et al. teaches the printhead assembly of claim 22 wherein the information specifies the thickness of the substrate, since the type of the substrate can be directly correlated to the thickness of the substrate.

7. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hongo et al (US Patent 5,172,137), Spurr et al. (US Patent 6,106,166) and Terasawa et al. (US Patent 5,398,049) as applied to claim 22 above, and further in view of Dorsel (US PG Pub 2004/0063106).

For claim 33: The combination of Hongo et al., Spurr et al. and Terasawa et al. teaches all of the limitations except that a processor is configured to detect the information stored with said image data receiving substrate and to use a lookup table to determine the distance to drive the first frame support. The combination of Hongo et al.,

Spurr et al. and Terasawa et al. teaches that information is read from the substrate and the distance is determined, but the lookup table is not consulted. However, Dorsel teaches a processor that translates the type of substrate into a corresponding substrate thickness based on a lookup table (paragraph 39 teaches an embodiment wherein a device uses the type of substrate to correlate with a substrate thickness via a lookup table). It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the thickness of the substrate and thus the distance to drive the frame relative to the support from the type of substrate as storing the type of substrate in RFID possesses more versatile uses.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID BANH whose telephone number is (571)270-3851. The examiner can normally be reached on M-Th 9:30AM-8PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DHB

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